

REMARKS

Claims 1, 3-7, 9-14, and 16-21 are pending in the application. Claims 1, 3-7, 9-14, and 16-21 stand rejected under 35 U.S.C. § 101 as being directed toward non-statutory subject matter. Claims 1, 3-7, 9-14, and 16-21 are indicated as allowable over the prior art of record.

Reconsideration is requested. The rejections are traversed. No new matter is added. Claims 1, 7, and 19-20 are amended. Claims 22-24 are added. Claims 1, 3-7, 9-14, and 16-24 remain in the case for consideration.

INTERVIEW SUMMARY

On March 6, 2007, the Applicant's attorneys Ariel S. Rogson and Alexander C. Johnson, Jr. held a telephone interview with Examiner Opsasnick. All the claims were discussed, with specific reference to claims 1, 7, 13, and 19-20.

The Applicant's attorneys proposed that the Beauregard claims be amended to describe the program as being executable by a computer. The Examiner opined that such amendment should make claims 7 and 20 allowable under 35 U.S.C. § 101.

The Examiner explained what was considered necessary to make claims 1 and 19 allowable. The Applicant proposed amending claims 1 and 19 to mention comparing the semantic abstract with a semantic abstract for a second document. The Examiner indicated such amendment might be sufficient to make claims 1 and 19 allowable.

The Applicant's attorneys proposed adding means-plus-function claims, which under *In re Alappat* should be allowable under 35 U.S.C. § 101. The Examiner agreed that means-plus-function claims should be allowable.

The Applicant's attorneys suggested that claim 13, one of the pending apparatus claims, should be allowable by virtue of falling in one of the statutorily recognized categories of patentable subject matter: a machine. The Examiner agreed to consider the arguments regarding the patentability of the apparatus claims under 35 U.S.C. § 101.

REJECTIONS UNDER 35 U.S.C. § 101

In rejecting the claims, the Examiner cites to the Interim Guidelines for subject matter eligibility, published on November 22, 2005. The Examiner indicates that these guidelines were used in rejecting the claims.

In rejecting the claims under 35 U.S.C. § 101, the Examiner argues that the claims “merely manipulate an abstract idea (mathematical algorithm) without a claimed limitation to a practical application” (*see* Office Action dated January 31, 2007, page 2). The Applicant respectfully disagrees. The practical application of the claims is their ability to enable a computer to construct a semantic abstract for a document, which can take the form of a single vector. This semantic abstract can then be used in comparing the document with other content: for example, to see how similar (or dissimilar) the other content is to the document. And because the claims provide a practical application, the claims do not “merely manipulate an abstract idea”, and so do not fall within the judicially exception to 35 U.S.C. § 101.

The Applicant notes that the Examiner asserts the claims are directed to some abstract idea, but has not identified what that abstract idea is. Under M.P.E.P. § 2106, “If USPTO personnel determine that the claimed invention preempts a 35 U.S.C. 101 judicial exception, they must identify the abstraction, law of nature, or natural phenomenon and explain why the claim covers every substantial practical application thereof.” The Applicant believes the Examiner has not met this requirement.

Method claims

Regarding the rejection of claims 1, 3-6, and 19, the claims are directed to methods. According to the Interim Guidelines, the requirements are that “the final result achieved by the claimed invention is ‘useful, tangible, and concrete’” (*see* Interim Guidelines, page 20; emphasis in original). Claims 1 and 19 have been amended to describe the claims as comparing certain information with a second semantic abstract to make a determination. The Applicant asserts that such amendment should make the claims allowable, as they produce a useful, tangible, and concrete result: namely, how close the second document is to the first document. This provides information that was not previously available.

Useful

According to the Interim Guidelines, “[f]or an invention to be “useful” it must satisfy the utility requirement of section 101” (*see* Interim Guidelines, page 20). That this new information is useful would seem to be self-evident: if the two documents are close, information about one document might be useful to a reader of the second document. Contrariwise, if the two

documents are not close, it is unlikely that a reader of one document would be interested in the other document, except by chance.

Tangible

According to the Interim Guidelines, the requirement that the result be “tangible” means that “the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. . . . In other words, the opposite meaning of ‘tangible’ is ‘abstract’” (*see* Interim Guidelines, pages 21-22). The Applicant believes that this new information satisfies this definition, in that the closeness of the two documents has been determined: this is a “real-world result”.

Concrete

According to the Interim Guidelines, the requirement that the result be “concrete” means that “the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. . . . The opposite of ‘concrete’ is unrepeatable or unpredictable” (*see* Interim Guidelines, page 22). The Applicant asserts that this requirement is met: the comparison of the information with the second semantic abstract to make a determination results in the same determination unless one of the documents has changed. And if one or the other of the documents has changed, then the input data is not the same, so there is no expectation that the results would be the same anyway.

Because the result of the method is useful, tangible, and concrete as defined in the Interim Guidelines, the Applicant believes that the claims are patentable under 35 U.S.C. § 101. But even without the amendments presented herein, the Applicant believes claims 1, 3-6, and 19 should still be allowable. In citing to *Diamond v. Diehr*, 450 U.S. 175, 209 U.S.P.Q. 1 (1981), the Interim Guidelines quote from *Cochrane v. Deener*, 94 U.S. 780 (1876) to support the proposition that the concept of a patent on a process had been envisioned in the 1793 Patent Act. The Applicant would like to point out that the general purpose computer did not exist in 1793, and would have been an absolutely novel idea: at the time, all machines were designed for a specific purpose, and could not be used for anything else. Charles Babbage did not invent his difference engine until 1822; the difference engine was a mechanical analog (and considerably

simpler in breadth) to the general purpose computer. However farsighted the drafters of the original 1793 Patent Act might have been, it seems unlikely they could have ever envisioned anything approaching a modern-day computer and its modes of operation.

Further, the Interim Guidelines conveniently ignore another discussion of *Cochrane v. Deener*, mentioned only one paragraph later in *Diehr*. According to the Supreme Court, “in *Gottschalk v. Benson*, 409 U.S. 663, 175 U.S.P.Q. 673, (1972), we repeated the above definition recited in *Cochrane v. Deener*, adding ‘Transformation and reduction of an article “to a different state or thing” is the clue to the patentability of a process claim that does not include particular machines’” (*see Diamond v. Diehr*, 45 U.S. at 184, 209 U.S.P.Q. at 7). Note the phrase “the patentability of a process claim that does not include particular machines” added in *Gottschalk v. Benson*. This phrase suggests that if the process claim includes particular machines, then the patentability of the process claim is not dependent on “transformation and reduction of an article ‘to a different state or thing’”.

But claims 1, 3-6, and 19 all mention particular machines: namely, the computer in which the process is implemented. Given that the process claim includes a particular machine, the requirement of “transformation” is not necessary, and claims 1, 3-6, and 19 as previously presented were also patentable under 35 U.S.C. § 101.

And even more than that, the Interim Guidelines appear to be applying a very limited definition of what satisfies “transformation and reduction of an article ‘to a different state or thing’”, requiring that there be a “physical transformation” (*see Interim Guidelines (Annex II)*, page 33). This is a gross overstatement of *Cochrane v. Deener*, certainly in light of *Gottschalk v. Benson*. And even though the visible physical structure of a computer might not show a “transformation”, that does not mean that the computer has not changed “to a different state”. Computers can be viewed, among other forms, as finite state machines. The act of carrying out a method on the computer results in the computer changing internally from one state to another. Even if the language of *Cochrane* could be applied to a modern-day computer, the definition is satisfied: the computer has changed state. It now stores a piece of information it did not have before: in claim 1, a “single vector [stored] as the semantic abstract for the document” (as before the amendment herein), and in claim 19, “the minimal vectors [stored] as the semantic abstract for the document” (as before the amendment herein).

It is also worth noting that in *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 22 U.S.P.Q.2d 1033 (Fed. Cir. 1992), the Federal Circuit upheld the process claims, including claim 1, as allowable. According to the Interim Guidelines (citing *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F.3d 1368, 47 U.S.P.Q.2d 1596 (Fed. Cir. 1998)), claim 1 of Arrhythmia was upheld “because it corresponded to a useful, concrete, and tangible thing – the condition of a patient’s heart” (see Interim Guidelines (Annex II), page 38). In a similar manner, the method claims in this patent application correspond to a useful, concrete, and tangible thing – a semantic abstract of a document. The semantic abstract of the document did not exist before execution of the methods in this patent application any more than did the “condition of a patient’s heart” in Arrhythmia, and if one is patentable subject matter, then so is the other.

Because claims 1, 3-6, and 19 are patentable under 35 U.S.C. § 101 regardless of tests used, claims 1, 3-6, and 19 are allowable, as are new claims 22-23.

Beauregard claims

Regarding the rejection of claims 7, 9-12, and 20, the claims are directed to computer-readable media containing a program. According to the Examiner, the problem with these claims lies in the fact that the claims do not indicate that the programs are executable by a computer. Claims 7 and 20 are amended to recite that the programs are executable by a computer. The Applicant believes this should make claims 7, 9-12, and 20 allowable.

The Applicant would, however, like to point out that such amendment should not be necessary. The claims at issue in *In re Beauregard*, 53 F.3d 1583 (1995), in which the U.S. Patent & Trademark Office conceded patentability under 35 U.S.C. § 101, did not mention that the code had to be executable by a computer. For example, the preamble to claim 1 of U.S. Patent No. 5,710,578 recites “An article of manufacture comprising: a computer usable medium having computer readable program code means embodied therein for causing a polygon having a boundary definable by a plurality of selectable pels on a graphics display to be filled, the computer readable program code means in said article of manufacture comprising:”. Nowhere does claim 1 state that the computer readable program code is executable by a computer. (The

Applicant grants that it is hard to imagine the computer usable medium being used by anything other than a computer, but the same can be said of claims 7 and 20 in this application.)

In issuing the rejection, the Examiner cites to *In re Warmerdam*, 31 U.S.P.Q.2d 1574 (Fed. Cir. 1994) to support the proposition that computer programs are not patentable subject matter. But claims 7, 9-12, and 20 are not directed to computer programs per se: these claims are directed to a computer-readable medium storing a program. As such, claims 7, 9-12, and 20 are proper Beauregard claims. Under *In re Beauregard*, 35 U.S.P.Q.2d 1383 (Fed. Cir. 1995), such claims are patentable subject matter. The Commissioner of Patents and Trademarks explicitly conceded such claims recite patentable subject matter in that case. The citation to *In re Warmerdam* is therefore irrelevant.

Further, Annex III of the Interim Guidelines states that:

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program’s functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions.

Computer programs are often recited as part of a claim. USPTO personnel should determine whether the computer program is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim. The same result occurs when a computer program is used in a computerized process where the computer executes the instructions set forth in the computer program. Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material per se and hence nonstatutory. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program’s functionality, as nonstatutory functional descriptive material. (see Interim Guidelines (Annex III), pages 53-54).

Nowhere do the Interim Guidelines mandate that a claim to a “computer-readable medium encoded with a computer program” needs to recite that the computer program can be

executed by a computer: such is implicit in the claim already. All that is required is that the “computer program is being claimed as part of an otherwise statutory manufacture or machine”. Claims 7, 9-12, and 20 met this requirement before the amendments presented herein.

Because claims 7, 9-12, and 20 recite patentable subject matter under 35 U.S.C. § 101, claims 7, 9-12, and 20 are allowable.

Apparatus claims

Regarding the rejection of claims 13-14, 16-18, and 21, the claims are directed to apparatuses. According to the Interim Guidelines, “[a] claim limited to a machine or manufacture, which has a practical application, is statutory” (*see* Interim Guidelines (Annex II), page 38). No further discussion is provided, other than citations to *In re Alappat*, 33 F.3d 1526, 31 U.S.P.Q.2d 1545 (Fed. Cir. 1994) (en banc), *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F.3d 1368, 47 U.S.P.Q.2d 1596 (Fed. Cir. 1998), and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999). Given that claims 13-14, 16-18, and 21 are all directed to machines, it would appear that these claims are, even under the Interim Guidelines, patentable without amendment, especially in light of the fact that there has been no suggestion that the claimed invention does not have a practical application.

In addition, the Examiner has analyzed claims apparatus claims 13-14, 16-18, and 21 in parallel with method claims 1, 3-6, and 19. There is no support in the Interim Guidelines for rejecting apparatus claims based on the analysis applied to method claims. Indeed, the rejections themselves state that “claims 1, 3-6, 13, 14, 16-19, 21 define non-statutory processes” (*see* Office Action dated January 31, 2007, page 2). But claims 13-14, 16-18, and 21 do not claim processes, they claim apparatuses. Thus, the rejection under 35 U.S.C. § 101 is at best misapplied, and at worst completely inappropriate.

Means-plus-function claims

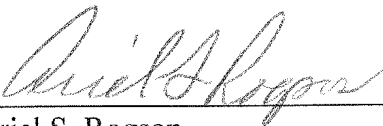
New claim 24 is based on claim 19 (prior to the amendment presented herein), but directed to an apparatus recited in mean-plus-function form. Means-plus-function claims are known to be patentable subject matter under 35 U.S.C. § 101, and so claim 24 should be allowable (*see In re Alappat*, 33 F.3d 1526, 1541-42, 31 U.S.P.Q.2d 1545, 1555 (Fed. Cir. 1994) (en banc)).

The Applicant also suggests that, if the Examiner is following the Interim Guidelines correctly in making the foregoing rejections, then the Interim Guidelines are contrary to established statute and case law, and therefore should not be followed. The Examiners are instructed in several places that the Interim Guidelines are only designed to assist USPTO personnel, but that failure to follow the Interim Guidelines is not appealable or petitionable. Rejections need to be based on the substantive law; the Interim Guidelines themselves do not have the force of law (*see, e.g., M.P.E.P. § 2106 and Interim Guidelines, page 2*). The Applicant believes the Examiner's interpretation of the Interim Guidelines as applied in the foregoing rejections contradicts existing statutes and case law, and should not be followed.

For the foregoing reasons, reconsideration and allowance of claims 1, 3-7, 9-14, and 16-24 of the application as amended is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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